FIG. 1

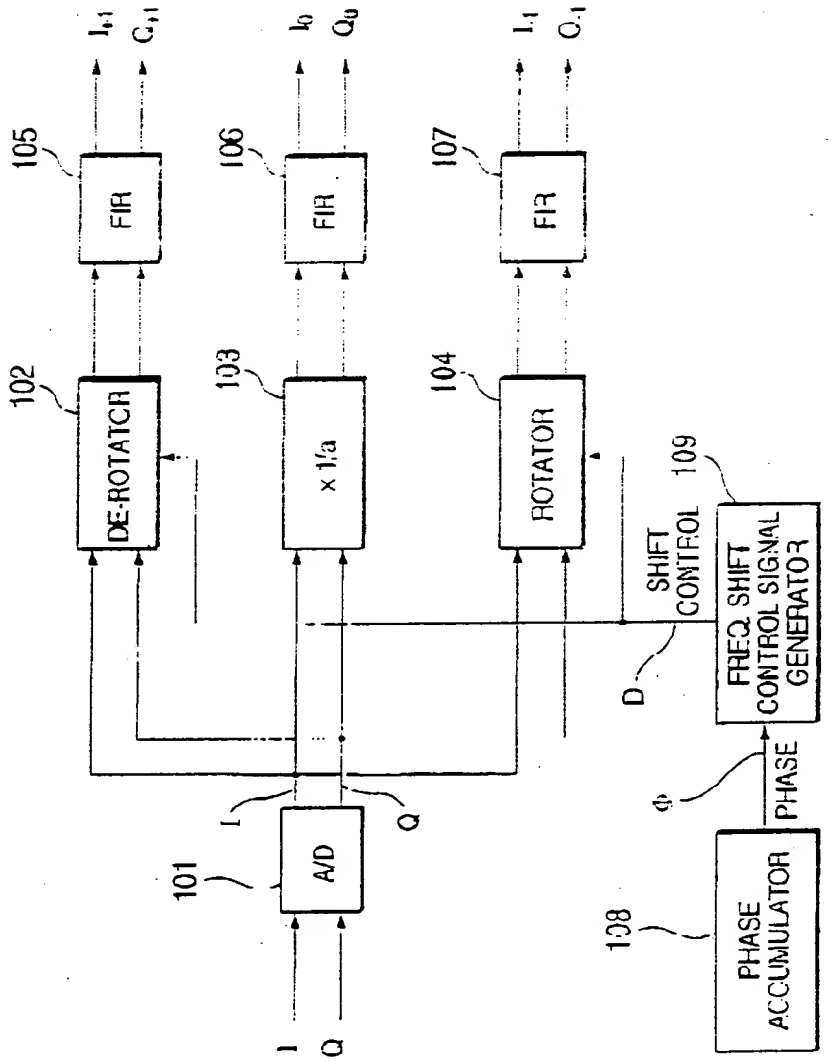

A/D
101
I
Q
DE-ROTATOR
102
x 1/a
103
ROTATOR
104
FIR
105
FIR
106
FIR
107
PHASE ACCUMULATOR
108
FREQ. SHIFT CONTROL SIGNAL GENERATOR
109
SHIFT CONTROL
D
PHASE
Φ

FIG. 2

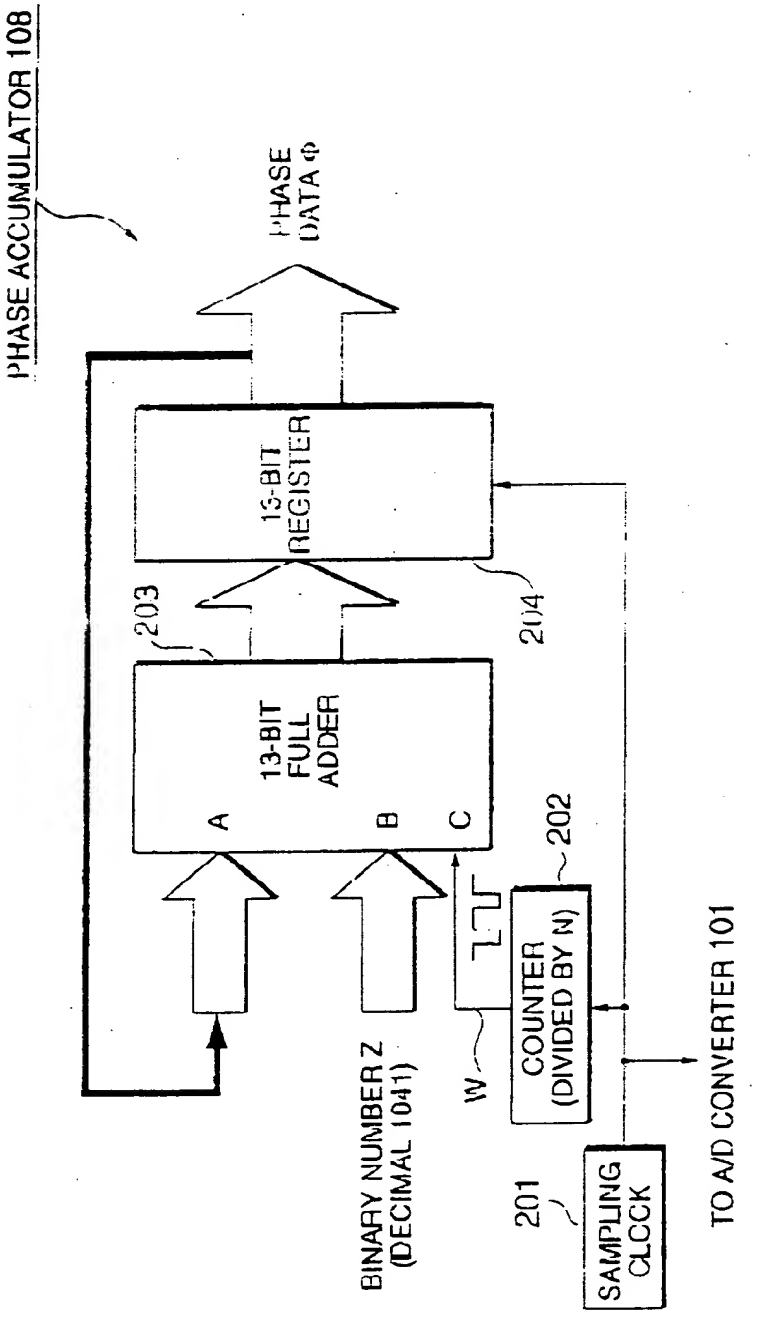

PHASE ACCUMULATOR 108
PHASE DATA Φ
16-BIT REGISTER
204
203
13-BIT FULL ADDER
A
B
C
202
COUNTER (DIVIDED BY N)
W
BINARY NUMBER Z (DECIMAL 1041)
201
SAMPLING CLOCK
TO A/D CONVERTER 101

FIG. 3A

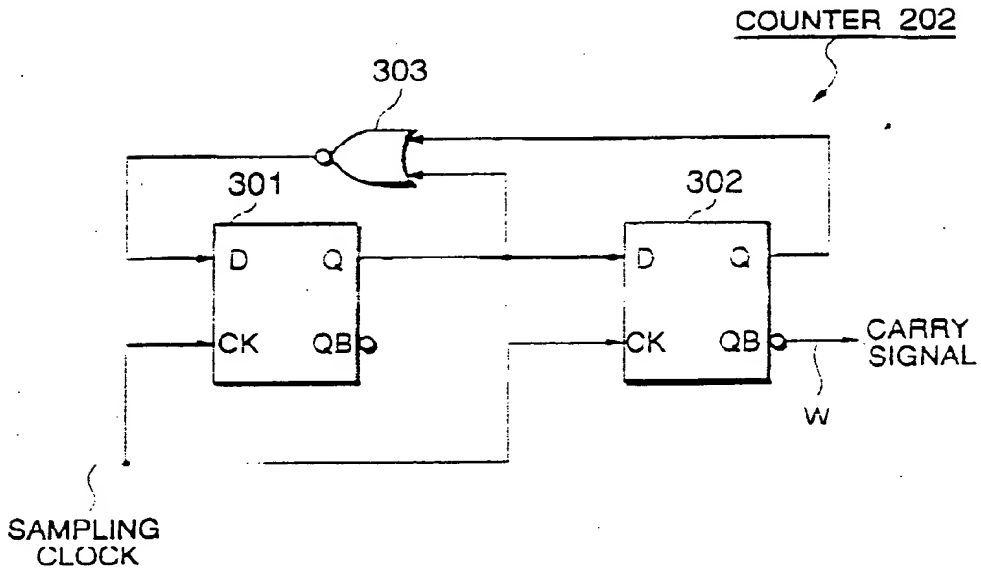
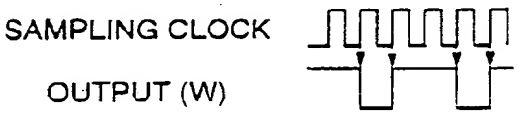

COUNTER 202
303
301
302
D
Q
CK
QB
D
Q
CK
QB
CARRY SIGNAL
W
SAMPLING CLOCK

FIG. 3B


SAMPLING CLOCK
OUTPUT (W)

0076760 6,226,760

FIG. 4

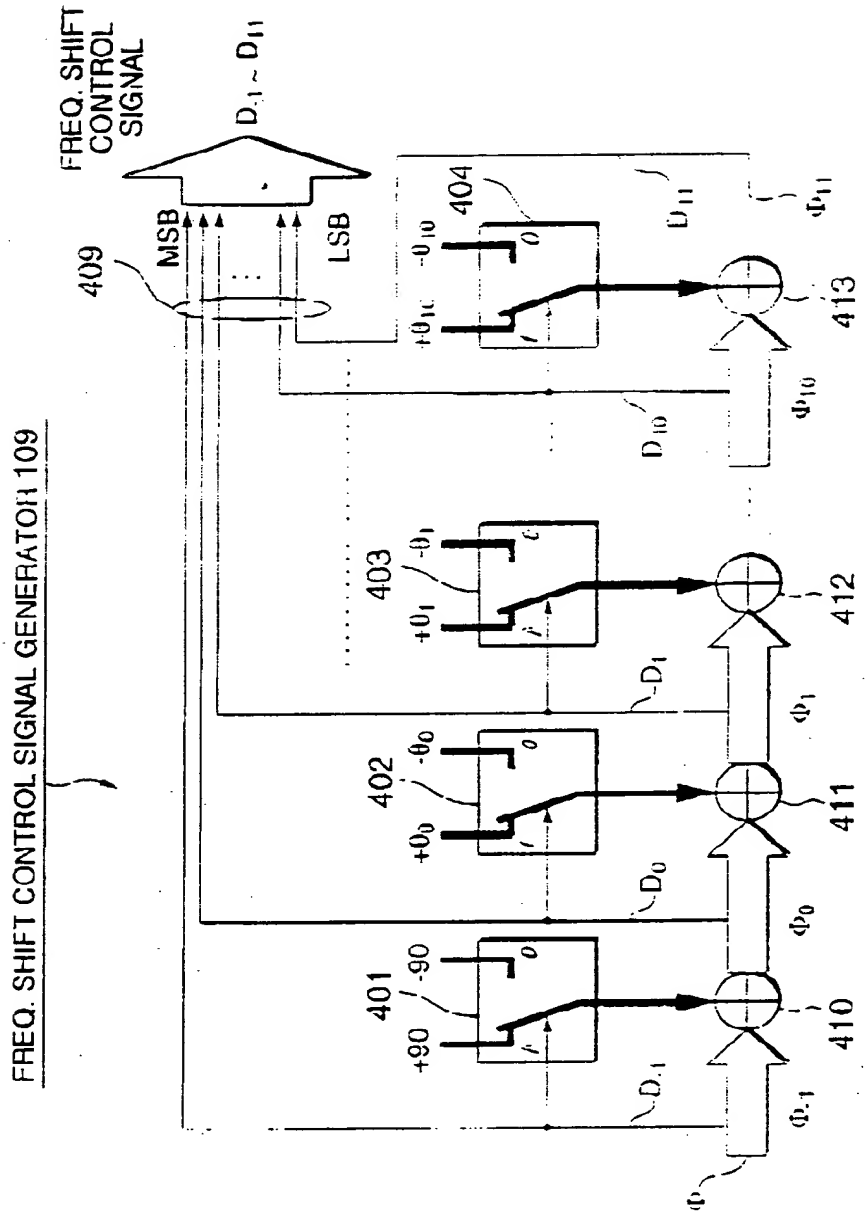


FIG. 5

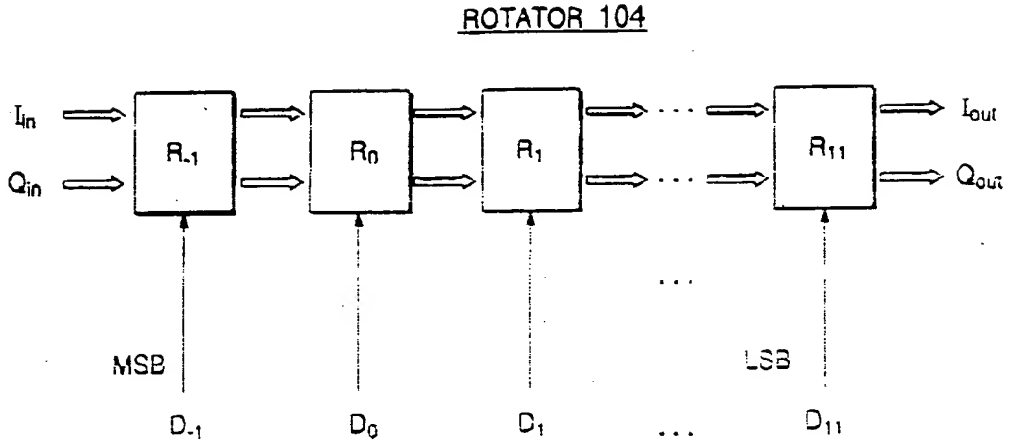
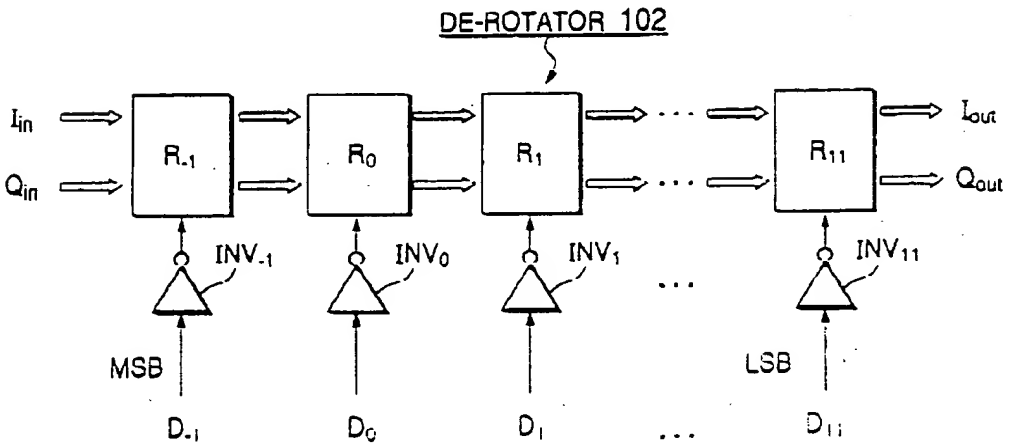


FIG. 6



0074709 6/26/56 0

FIG. 7

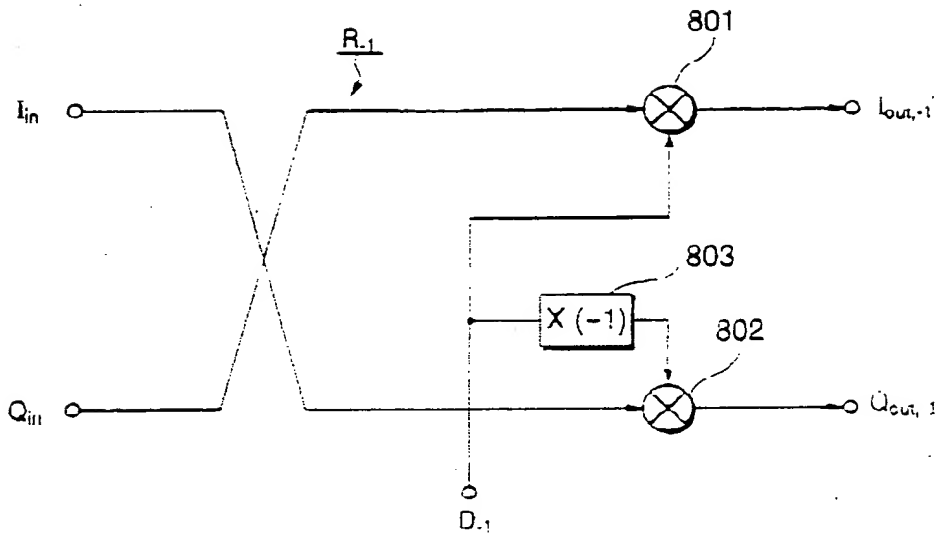
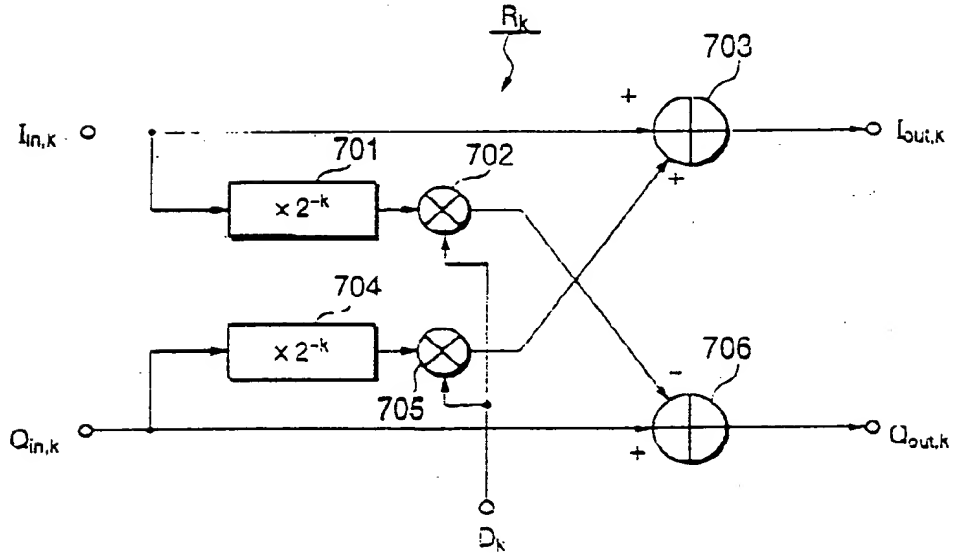


FIG. 8



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00h7h0*6726h560

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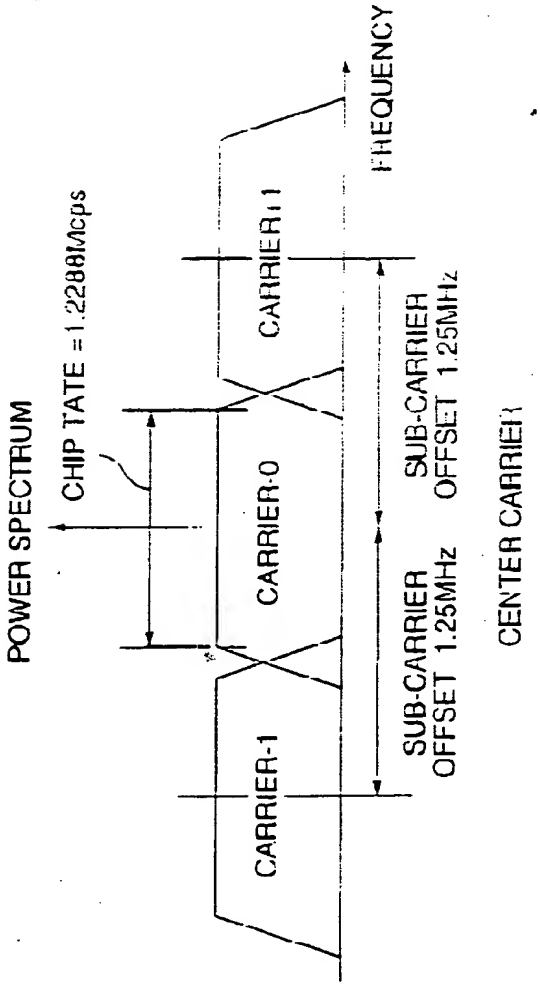
FQ5-461

FIG. 9

k	2^{-k}	$\theta_k = \arctan(2^{-k})$	$\cos\theta_k$	45×2^{-k}
0	1.0000000000	45.0000000000	0.7071067812	45.0000000000
1	0.5000000000	26.5650511771	0.8944271910	22.5000000000
2	0.2500000000	14.0362434679	0.9701425001	11.2500000000
3	0.1250000000	7.1250163489	0.9922778767	5.6250000000
4	0.0625000000	3.5763343750	0.9980525785	2.8125000000
5	0.0312500000	1.7899106082	0.9995120761	1.4062500000
6	0.0156250000	0.8951737102	0.9998779520	0.7031250000
7	0.0078125000	0.4476141709	0.9999694838	0.3515625000
8	0.0039062500	0.2238105004	0.9999923707	0.1757812500
9	0.0019531250	0.1119056771	0.9999980927	0.0878906250
10	0.0009765625	0.0559528919	0.9999995232	0.0439459125
11	0.0004882813	0.0279764526	0.9999998808	0.0219726563
12	0.0002441406	0.0139862271	0.9999999702	0.0109863281
13	0.0001220703	0.0069941137	0.9999999925	0.0054931641
14	0.0000610352	0.0034970569	0.9999999981	0.0027465820
15	0.0000305176	0.0017485284	0.9999999995	0.0013732910

FIG. 10


POWER SPECTRUM
CHIP TATE = 1.2288Mcps
FREQUENCY
CARRIER-1
CARRIER-0
CARRIER-1
SUB-CARRIER
OFFSET 1.25MHz
SUB-CARRIER
OFFSET 1.25MHz
CENTER CARRIER